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Databaseless security system.

An improved security system, including a portable smart card (500) and a host computer (600), eliminates the need for the computer to store individual personal identification (ID) numbers for each user seeking access to the computer. Instead, the computer stores a first encryption algorithm E_1 used in converting a particular identification number $(ID)_n$ into a secret code S_n for that particular user. S_n also exists within the memory of the smart card having been loaded into its memory at the time of issue. A challenge number C is generated by the computer and transmitted to the smart card. Within the smart card and the computer, microprocessors respond to the challenge number C , the secret code S_n , and a second encryption algorithm E_2 in order to generate response numbers R_n and R'_n respectively. Thereafter, R_n is transmitted to the computer where it is compared with R'_n . A favorable comparison is necessary for gaining access to the computer.

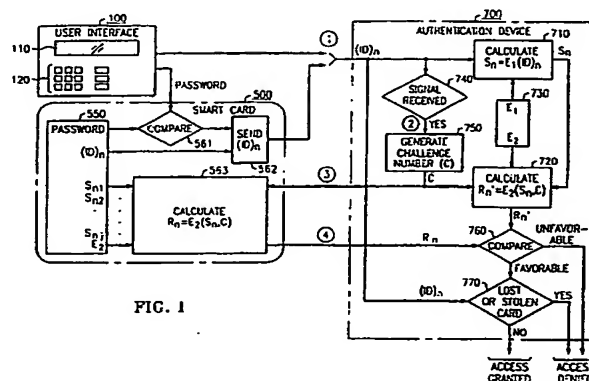


FIG. 1

EP 0 427 465 A3



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EUROPEAN SEARCH REPORT

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EP 90 31 2005

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|--|--|---|---|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int. Cl.5) |
| A | EP-A-0 029 894 (IBM) * abstract; claim 1 * - - - - | 1,9 | G 07 F 7/10 G 07 C 9/00 G 06 F 1/00 |
| A | EP-A-0 131 421 (AMERICAN TELEPHONE AND TELEGRAPH COMPANY) * abstract * - - - - | 1,9 | |
| A | EP-A-0 281 059 (SIEMENS) * abstract * - - - - | 1,9 | |
| A | US-A-4 310 720 (CHECK) * abstract * - - - - | 1,9 | |
| A | EP-A-0 114 773 (CII HONEYWELL BULL) * abstract * - - - - | 1,9 | |
| A | EP-A-0 281 058 (SIEMENS) * abstract * - - - - | 1,9 | |
| A | EP-A-0 284 133 (TRT) * claim 1 * - - - - | 1,9 | |
| D,A | US-A-4 453 074 (WEINSTEIN) - - - - | | |
| D,A | US-A-4 471 216 (HERVE) * abstract * - - - - - | 1,9 | |
| The present search report has been drawn up for all claims | | | |
| Place of search The Hague | | Date of completion of search 30 May 91 | Examiner TACCOEN J-F.P.L. |
| CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention | | E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document | |